**Taking Less Time to Mark:** Creating Useful Rubrics

Presented by:

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**Creating Scoring/Analytic Rubrics**

Rubrics are a popular tool for outlining criteria and for assessing and evaluating student achievement. They are often in a table/matrix with 3-4 levels and descriptions of criteria per each level. Once developed, a good rubric can be used for years. Here are some simple steps to create a rubric.

**Suggested Steps in Creating Rubrics**

**1.** Clearly identify the **learning expectations**, **objectives of task**, **performance,** or **final product** to be evaluated.

**2.** Brainstorm possible **criteria** of student **performance, product, or process**

 Include criteria that reflect a broad range of knowledge and skills (i.e., knowledge and understanding; application and analysis; creativity) as

appropriate for the particular performance, product, or process

**3.** From the brainstormed list, identify key **specific, observable,** and **measurable** criteria that best reflect the learning to be assessed

 Select only the top **5-7 criteria** (if you have more - it takes too long to mark)

 Avoid having a lengthy and practically unusable rubric with too many criteria

**4. Create** a **table** of 5 columns wide X 10 rows. Using a word processing program is easiest. You can adjust column/row width as needed later on. An effective rubric includes four levels/steps in the learning continuum that spans 0-100% for grading.

**5.** Phrase the **criteria explicitly** so there is no confusion about what is being assessed and put each of the criteria in rows in the first column.

 Check to ensure the criteria helps the student know what to do

 Often the **criteria column has examples** of what to expect to guide students in knowing exactly what is expected/not expected

**6.** Brainstorm characteristics that describe each criterion and create a **continuum of learning** through 4 levels using clear **descriptions**

 Ensure **criteria are consistently addressed** at each level using suitable descriptions (e.g., address the same elements in each level)

 Descriptions (qualifiers) should **distinguish differences between levels** (see chart on next page)

 Ensure language is **measurable**

**7. Add in marks per each level.** Can be changed per instructor’s emphasis per assignment or course. Ensure they match the percentages per column.

**8. Reflect and revise** rubric as needed (often 2-3 revisions will work out the kinks)

**Qualifiers for Writing Rubrics**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Criteria** | **Level 1** | **Level 2** | **Level 3** | **Level 4** |
| **Amount**  *(e.g., breadth or quantity)* |  Few   Missing many key items |  Some   Missing some key items |  Most   Missing 1 or 2 items |  All   Includes everything |
|  Incomplete / insufficient |  Almost complete |  Complete |  Comprehensive |
|  Limited   Partial |  Some   Selected |  Considerable   Substantial |  Thorough   High degree |
| **Frequency**  *(e.g., accuracy)* |  Seldom   Infrequently   Rarely |  Sometimes   Occasionally   Some of the time |  Usually   Frequently   Most of the time |  Consistently   Always   At all times |
| **Intensity**  *(e.g., relevance or clarity)* |  Slightly /Slight   A little |  Moderately/moderate   Fairly / fair   Somewhat |  Mainly/main   Mostly / most   Largely/ large |  Extremely / extreme   Tremendously / tremendous   Exceptionally / exceptional |
| **Quality**  *(e.g., choice of examples)* |  Poor   With high degree of assistance   Experiencing difficulty, ineffective   Not clear, uncertain   Little evidence   Limited   Extremely lacking in details |  Satisfactory   With limited assistance   Some appropriateness   With some clarity   Some evidence   Partial   Requiring more depth and breadth to work |  Good   Independent most of the time   Appropriate, Effective   Clear   Appropriate evidence, more required   General   Some depth and breadth |  High   Independent   Outstanding, Highly Effective   Precise   Extensive Evidence   Thorough, In-depth   Depth and Breadth |

**Levels and Marks: For Writing Rubrics**

This is just a small stab at helping you appoint “level appropriate” marks that correspond to the averages for each level. Remember that giving just any mark for a level isn’t necessarily correct (nor mathematically correct) in terms of the percentage per each category. You may also want to consider giving a range of 3 marks (high level, mid level and low level). Note: I put Level 4 first on the left. You can alter the direction you list levels too.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name of Level** | **Level 4** | **Level 3** | **Level 2** | **Level 1** |
|  |  |  |  |  |
| **Percentage Range** | 80-100% | 70-79% | 60-69% | 50-59% |
|  |  |  |  |  |
| **Mark /10** | 8 - 10 | 7 - 7.9 | 6 – 6.9 | 5 – 5.9 |
|  |  |  |  |  |
| **Hi, Med, Lo Marks / 10** | 10 9 8 | 7 .9 7.45 7.0 | 6 .9 6.45 6.0 | 5 .9 5.45 5.0 |
|  |  |  |  |  |
| **Mark / 5** | 4 – 5 | 3.5 – 3.9 | 3.0 – 3.4 | 2.5 – 2.9 |
|  |  |  |  |  |
| **Hi, Med, Lo Marks / 5** | 5 4.5 4 | 3.9 3.7 3.5 | 3.4 3.2 3.0 | 2.9 2.7 2.5 |
|  |  |  |  |  |
| **Mark / 15** | 12 -15 | 10.5 - 11.9 | 10.4 - 9 | 7.5 – 8.9 |
|  |  |  |  |  |
| **Hi, Med, Lo Marks / 15** | 15 13.5 12 | 11.9 11.2 10.5 | 10.4 9.7 9.0 | 8.9 8.2 7.5 |
|  |  |  |  |  |
| **Descriptor** | A very high to outstanding level of achievement. | A high level of achievement. | A moderate level of achievement. | A passable level of achievement. |

**Institution and Department Information**

**Student Name: Instructor:**

**Course:** Course Name

**Note to Students:** Please attach this rubric to your assignment so it can be marked.

**Rubric for Quality Rubrics**

**Description of Task:** You are an instructor who needs a rubric for a ‘performance task” (such as a lab, project, model, presentation, etc). You know that by properly constructing a good (and detailed enough) rubric (with added marks) you’ll save yourself time in marking and you’ll provide your students with a good guide to evaluating their ability. You will also be providing your students with a continuum of descriptions that are consistent and measurable. Ensure that you try to phrase your descriptions positively.

The rubric is to be made with a word processing program for one of your term assignments. Use learning objectives from your course to frame the whole rubric. You are to choose 5-7 criteria that you feel will make this an excellent ‘performance task’. Choose criteria you feel will come from a variety of skill areas. The criteria need to be fully described with possible examples if required to give students a clear understanding of what is needed for success. Then you are to take the levelled descriptors and ensure they are not vague and relate to the criteria with

qualifiers that are appropriate to that level. Use this rubric as a guide to design your rubric. Good Luck!

**Student Comments:**

**TOTAL MARK /60**

**Instructor Comments:**

**Rubric for Quality Rubrics - Criteria and Descriptors Per Level**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Criteria** | **Level 1** (0-49%) | **Level 2** (50-69%) | **Level 3** (70-84%) | **Level 4** (85-100%) |
| **Parts of Rubrics** | | | | |
| **Basic Identifiers**: course/subject/topic, appropriate title of rubric, instructor’s name, logo/clipart/image to distinguish rubric, footer with instructor name/year, labels for levels 1-4 and corresponding percentages (can change if wish) | **4 or more** basic identifiers are **not evident** and/or **not** properly **labeled.**  0 - 4.9 | **3** basic identifiers are **not evident** and/or **not** properly **labeled.**  5 - 6.9 | **2** basic identifiers are **not evident** and/or **not** properly **labeled.**  7 - 8.4 | **All (or all but 1)** basic identifiers are **evident** and/or **properly labeled**.  8.5 - 10 |
| **Criteria and Descriptions** | | | | |
| **Performance Criteria Descriptions are Clear and Detailed**: chosen criteria have enough detail to explain what is expected of students, with possible examples/detail to explain any concepts as demonstrated in this rubric on  rubrics, chosen criteria are a variety of amount/quantity, frequency and intensity | Description of each criterion is of a **poor quality,** clearly written **none of the time**  and is **severely lacking detail** for understanding.  0 - 4.9 | Description of each criterion is of a **fair quality,** clearly written **sometimes** and is mostly **lacking detail** for understanding.  5 - 6.9 | Description of each criterion is of a **good quality**, clearly written **most times** and has **appropriate detail** for understanding.  7 - 8.4 | Description of each criterion is of a **high quality, clearly written all times** and has **significant detail** for understanding.  8.5 - 10 |
| **Level Descriptions Measurable and Detailed**: there is consistent use of non- vague, yet positive language across each of the 4 levels that use descriptors appropriate to the task that allow for ease in understanding what is expected from students; descriptions ensure that the same criteria is discussed across all the levels | Description of each of 4 levels is written in **unclear and non-measureable** terms, with frequent **inconsistent** and **negative language** and **does not addresses** the **same** components across all levels.  0 - 4.9 | Description of each of 4 levels is written in **somewhat clear** and measureable terms, with **frequent inconsistent** and negative language and **often does not address** the **same** components across  all levels.  5 - 6.9 | Description of each of 4 levels is written in **mostly clear** and measureable terms, with **mostly consistent** and positive language and addresses the **same components** across all levels.  7 - 8.4 | Description of each of 4 levels is written in **clear and measureable** terms, with **consistent** and **positive language** and addresses the **same components** across all levels.  8.5 - 10 |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Visual and Text of Rubric** | | | | |
| **Performance Task Description + Overall Written Expression**: 6-8 sentences for a performance task description is well written with proper spelling/grammar, overview of the task, enough detail to know what is to be accomplished with some specific details, overall rubric is well written in terms of grammar and spelling | **Little** written work contains proper sentence structures, grammar and spelling. Performance task **barely outlines** the task with **missing details** for understanding.  0 - 4.9 | **Some** written work contains proper sentence structures, grammar and spelling. Performance task **somewhat outlines** the task with **some missing** details for understanding.  5 - 6.9 | **Most** written work contains proper sentence structures, grammar and spelling. Performance task **generally outlines** the task with **appropriate details** for understanding.  7 - 8.4 | **All** written work contains **proper sentence structures**, grammar and spelling (with possible 1-2 minor errors). Performance task **clearly outlines** the task with **significant details** for understanding.  8.5 - 10 |
| **Layout and Design**: entire rubric has been properly laid out and displayed with good design sense to aid in readability; use of appropriate fonts/font sizes/bolding to aid in reading, shading/white space to allow  space to circle marks, layout is clean and professional looking | Layout meets **few** design components that are **rarely** executed and with **poor impact** on **professional** look of work.  0 - 4.9 | Layout meets **some** design components that are **somewhat** executed and with **fair impact** on **professional** look of work.  5 - 6.9 | Layout meets **major** design components that are **generally** executed and with **good impact** on **professional** look of work.  7 - 8.4 | Layout meets **all to mostly all** design components that are **always** executed and with **significant impact** on **professional** look of work.  8.5 - 10 |
| **Application of Components** | | | | |
| **Applied Elements of Rubric Structure:** included learning objectives in description, 5-7 appropriate criteria mark range for each level/criteria evident under each level and total overall mark | Rubric demonstrates an application of **limited** elements of structure and elements done with **little care on details.**  0 - 4.9 | Rubric demonstrates an application of **some** elements of structure and elements done with **some care on details.**  5 - 6.9 | Rubric demonstrates an application of **most** elements of structure and elements done with **considerable care on details.**  7 - 8.4 | Rubric demonstrates an application of **all** elements of structure and elements done with **thoroughness and care on details.**  8.5 - 10 |

**Sample School**

111555 Sample School Road

Student Name: **Sample Rubric**

Date:



Instructor: Sample Instructor

Course: Sample Biology

**Performance Task Description: Model of Mitosis and Meiosis**

Mitosis is the process in which a eukaryotic cell separates the chromosomes in its cell nucleus, into two identical sets in two daughter nuclei. Meiosis is a process of reductional division in which the number of chromosomes per cell is halved. To help remember and better understand mitosis and meiosis you will design and build a model depicting the various structures and functions involved in these processes.

Your model can represent your choice of either mitosis or meiosis II. You will build this model using common household products like sponges, pipe cleaners, straws and construction paper. The model must use appropriate materials that logically represent the actual structures. For example, using pipe-cleaners to represent phospholipids would be an appropriate selection of materials. The model must be visually appealing, such that the model captures the attention of the audience and is engaging. The model must also aid in the learning of the concepts with clear and distinct structures. The structure and the function of the model must represent concepts accurately.

In addition to the model you must create a poster or brochure describing the stages of **mitosis and meiosis**, the main differences and similarities between them as well as one real life application. The brochure should be concise and describe concepts accurately. Due Date:

**Learning Objectives**

|  |  |
| --- | --- |
| 1. | explain the phases in the process of meiosis in terms of cell division, the movement of chromosomes, and crossing over of genetic material |
| 2. | investigate the process of meiosis, by using biological diagrams and models to help explain the main phases in the process |

**Instructor Comments:**

**Total Mark** /60

**Sample Biology Rubric: Mitosis and Meiosis**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Criteria:** | **Level 1** (0-49%) | **Level 2** (50-69%) | **Level 3** (70-84%) | | **Level 4** (85-100%) | |
| **Knowledge of Concepts** | | | | | | |
| Demonstrate an understanding of the  **structure** and **function** of mitotic/meiotic cells **accurately**. (e.g. use suitable terminology; use appropriate materials; label and design relevant structures; represent mitotic/meiotic phases) | Demonstrates a **limited**  understanding of the structure and function of mitotic/meiotic cells that are **consistently** inaccurate  0 - 4.9 | Demonstrates **some**  understanding of the structure and function of mitotic/meiotic cells that are **mostly** inaccurate  5 - 6.9 | | Demonstrates a  **considerable** understanding of the structure and function of mitotic/ meiotic cells that are **sometimes** inaccurate  7 - 8.4 | | Demonstrates a **thorough**  understanding of the structure and function of mitotic/ meiotic cells that are **seldom** inaccurate  8.5 - 10 |
| **Describe how all relevant cell**  **components carry out various cell processes** during mitosis/meiosis (e.g. include descriptions of all major organelles; indicate the function of each organelle; describe the major phases) | Description of each  process **rarely** contains **few** of the expected cell components and cell processes  0 - 4.9 | Description of each process  **often** contains **some** of the expected cell components and cell processes  5 - 6.9 | | Description of each  process **regularly** contains **most** of the expected cell components and cell processes  7 - 8.4 | | Description of each  process **consistently** contains **almost all** of the expected cell components and cell processes  8.5 - 10 |
| **Analysis and Evidence** | | | | | | |
| **Analyze concepts appropriately**  **providing details in relation to mitosis/meiosis** (e.g. discuss the relevance of mitosis/meiosis in relation to Mendelian genetics; structure is designed to convey relevant details) | Analysis of concepts  provides **little evidence** of supporting details that are **slightly** relevant  0 - 4.9 | Analysis of concepts  provides **satisfactory evidence** of supporting details that are **moderately** relevant  5 - 6.9 | Analysis of concepts  provides **appropriate evidence** of supporting details that are **mainly** relevant  7 - 8.4 | | Analysis of concepts  provides **extensive evidence** of supporting details that are **extremely** relevant  8.5 - 10 | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Communication and Terminology** | | | | |
| **Communicate the process** and  importance of mitosis or meiosis **clearly and effectively in the model and brochure** (e.g. structures are apparent; phases are presented in a step-wise manner; comprehensible explanation of processes) | The information  communicated in the model and brochure is **slightly** clear with **limited** effectiveness.  0 - 4.9 | The information  communicated in the model and brochure is **moderately** clear with **some** effectiveness.  5 - 6.9 | The information  communicated in the model and brochure is **mainly** clear with **considerable** effectiveness.  7 - 8.4 | The information  communicated in the model and brochure is **extremely** clear with **excellent** effectiveness.  8.5 - 10 |
| **Use correct terminology when**  **discussing cellular biology with depth and accuracy** ( e.g. include all necessary and proper vocabulary pertaining to the phases, chromosome stage, chromosome number, structures and functions; proper spelling and grammar) | **Few** appropriate terms are  included with **considerable**  spelling/grammatical errors ( 10-12 errors)  0 - 4.9 | **Some** appropriate terms  are included with **several** spelling/ grammatical errors (7-9 errors)  5 - 6.9 | **Most** appropriate terms  are included with **some** spelling/grammatical errors (4-6 errors)  7 - 8.4 | **All** appropriate terms are  included with **few** spelling/grammatical errors ( 1-3 errors)  8.5 - 10 |
| **Comparison** | | | | |
| Use knowledge of mitosis and meiosis to **make a comparison between the different types of cell divisions** ( include all relevant comparisons of structure, function, purpose and chromosome #) | Comparisons are made using **very few** examples that are **slightly** relevant  0 - 4.9 | Comparisons are made using **some** examples that are **moderately** relevant  5 - 6.9 | Comparisons are made using **most** examples that are **mainly** relevant  7 - 8.4 | Comparisons are made using **almost all** examples that are **extremely** relevant  8.5 - 10 |